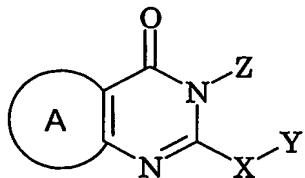


CLAIMS

1. A compound of formula (I):

5



(I)

wherein:

A is a benzene ring, a fused five-membered heteroaromatic ring containing 1, 2 or 3 heteroatoms independently chosen from O, N and S, providing that no more than one O or S atom is present, or a fused six-membered heteroaromatic ring containing 1, 2 or 3 N atoms;

A is optionally substituted by one, two or three groups independently chosen from halogen, hydroxy, $S(O)_rC_{1-4}alkyl$, $S(O)_rNR^5R^6$, formyl, $C_{1-4}alkylcarbonyl$, $C_{1-6}alkyl$, $haloC_{1-6}alkyl$, $hydroxyC_{1-6}alkyl$, $C_{1-6}alkoxy$, $haloC_{1-6}alkoxy$, $hydroxyC_{1-6}alkoxy$, $C_{3-7}cycloalkyl$, $C_{3-7}cycloalkoxy$, $C_{2-6}alkenyl$, $C_{2-6}alkynyl$, amino, nitro, cyano, $C_{1-6}alkylamino$, $di(C_{1-6}alkyl)amino$, $aminoC_{1-6}alkyl$, $aminoC_{1-6}alkoxy$, $C_{1-6}alkylaminoC_{1-6}alkyl$, $di(C_{1-6}alkyl)aminoC_{1-6}alkyl$; and a phenyl, naphthyl, a five-membered heteroaromatic ring containing one, two, three or four heteroatoms independently chosen from O, N or S, at most one heteroatom being O or S, and a six-membered heteroaromatic ring containing one, two or three N atoms, the ring being optionally substituted by halogen, hydroxy, cyano, nitro, NR^5R^6 as defined below, $C_{1-6}alkyl$, $C_{2-6}alkenyl$, $C_{2-6}alkynyl$, $haloC_{1-6}alkyl$, $C_{1-6}alkoxy$, $haloC_{1-6}alkoxy$, $C_{3-7}cycloalkyl$ or $hydroxyC_{1-6}alkyl$;

X is O, S or NR^1 where R^1 is hydrogen or $C_{1-6}alkyl$;

Y is $(CR^2R^3)_n(CO)_p(NR^4)_qW$;

R^2 and R^3 are independently hydrogen, hydroxy, halogen or $C_{1-4}alkyl$;

R^4 is hydrogen or $C_{1-6}alkyl$;

n is zero, one, two, three or four;

p is zero or one;

q is zero or one;

r is zero, one or two;

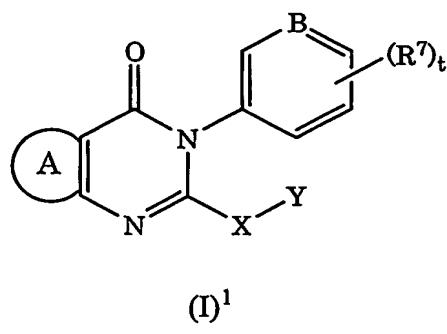
5 W is hydrogen, C₁-alkoxy, haloC₁-alkoxy, C₁-alkyl, haloC₁-alkyl,
hydroxyC₁-alkyl, aminoC₁-alkyl, carboxyC₁-alkyl, C₃-cycloalkyl,
haloC₃-cycloalkyl; or a phenyl ring, a five-membered heteroaromatic ring
containing one, two, three or four heteroatoms independently chosen from O, N
and S, at most one heteroatom being O or S, a six-membered heteroaromatic ring
10 containing one, two or three N atoms, or a nine- or ten-membered fused bicyclic
heteroaromatic ring containing a phenyl ring or a six-membered heteroaromatic
ring as just defined, fused to either a six-membered heteroaromatic ring as just
defined or a five-membered heteroaromatic ring as just defined, a six-membered
saturated ring containing one or two heteroatoms independently chosen from O
15 and N, the ring being optionally substituted by halogen, C₁-alkyl, C₂-alkenyl,
C₂-alkynyl, nitro, cyano, C₃-cycloalkyl, hydroxy, C₁-alkoxy, haloC₁-alkyl,
haloC₁-alkoxy, hydroxyC₁-alkyl, hydroxyC₁-alkoxy, phenyl, an unsubstituted
five-membered heteroaromatic ring as just described, a six-membered
heteroaromatic ring as just described, a six-membered saturated ring as just
20 described or NR⁵R⁶;

each R⁵ and R⁶ is independently hydrogen or C₁-alkyl or R⁵ and R⁶,
together with the nitrogen atom to which they are attached, may form a
saturated 4-7 membered ring;

Z is a phenyl ring, a five-membered heteroaromatic ring containing one,
25 two, three or four heteroatoms independently chosen from O, N or S, at most one
heteroatom being O or S, or a six-membered heteroaromatic ring containing one,
two or three N atoms, optionally substituted by halogen, hydroxy, cyano, nitro,
NR⁵R⁶ as defined above, C₁-alkyl, C₂-alkenyl, C₂-alkynyl, haloC₁-alkyl,
C₁-alkoxy, haloC₁-alkoxy, C₃-cycloalkyl or hydroxyC₁-alkyl;

30 when R¹ and R⁴ are alkyl groups they may, together with the nitrogen
atoms to which they are attached, form a piperazine ring;
or a pharmaceutically acceptable salt or tautomer thereof.

2. A compound of claim 1 represented by formula (I)¹:

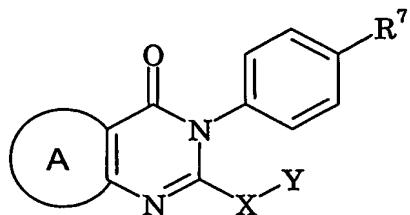


wherein:

- B is N or CH;
- 5 t is 1, 2 or 3;
- A is a fused five-membered heteroaromatic ring containing 1, 2 or 3 heteroatoms independently chosen from O, N and S, providing that no more than one O or S atom is present, or a fused six-membered heteroaromatic ring containing 1, 2 or 3 N atoms;
- 10 A is optionally substituted by halogen, C₁₋₄alkyl, hydroxyC₁₋₄alkyl; C₃₋₇cycloalkyl, C₃₋₇cycloalkylC₁₋₄alkyl, phenyl or di(C₁₋₄alkyl)aminoC₁₋₄alkyl;
- X is O, S or NR¹ where R¹ is hydrogen or C₁₋₄alkyl;
- Y is (CR²R³)_n(CO)_p(NR⁴)_qW, where R², R³, R⁴, n, p and q are as defined in claim 1;
- 15 W is hydrogen, C₁₋₆alkoxy, C₁₋₆alkyl, haloC₁₋₆alkyl, C₃₋₇cycloalkyl; or a phenyl ring, a five-membered heteroaromatic ring containing one, two, three or four heteroatoms independently chosen from O, N or S, at most one heteroatom being O or S, a six-membered heteroaromatic ring containing one, two or three N atoms, or a nine- or ten-membered fused bicyclic heteroaromatic ring containing
- 20 a phenyl ring or a six-membered heteroaromatic ring as just defined, fused to either a six-membered heteroaromatic ring as just defined or a five-membered heteroaromatic ring as just defined, the ring being optionally substituted by halogen, C₁₋₄alkyl, hydroxy, C₁₋₄alkoxy, haloC₁₋₄alkyl, phenyl, haloC₁₋₄alkoxy or NR⁵R⁶ where R⁵ and R⁶ are independently C₁₋₄alkyl or, R⁵ and R⁶, together with the nitrogen atom to which they are attached, form a 5-6 membered saturated ring;
- 25 R⁷ is hydrogen, cyano, halogen, C₁₋₄alkyl, haloC₁₋₄alkyl, C₁₋₄alkoxy, haloC₁₋₄alkoxy, amino, C₁₋₄alkylamino or di(C₁₋₄alkyl)amino;

when R¹ and R⁴ are alkyl groups they may, together with the nitrogen atoms to which they are attached, form a piperazine ring; or a pharmaceutically acceptable salt or tautomer thereof.

- 5 3. A compound of claim 1 or 2 represented by formula (IA):



(IA)

wherein A is a fused five-membered heteroaromatic ring containing 1, 2
10 or 3 heteroatoms independently chosen from O, N and S, providing that no more than one O or S atom is present, or a fused six-membered heteroaromatic ring containing 1, 2 or 3 N atoms;

A is optionally substituted by halogen, C₁₋₄alkyl, C₃₋₇cycloalkyl or phenyl;

X is O, S or NR¹ where R¹ is hydrogen or C₁₋₄alkyl;

15 Y is (CR²R³)_n(CO)_p(NR⁴)_qW, where R², R³, R⁴, n, p and q are as defined for formula I;

W is hydrogen, C₁₋₆ alkyl, haloC₁₋₆alkyl, C₃₋₇cycloalkyl; or a phenyl ring, a five-membered heteroaromatic ring containing one, two, three or four

heteroatoms independently chosen from O, N or S, at most one heteroatom being

20 O or S, a six-membered heteroaromatic ring containing one, two or three N atoms, or a nine- or ten-membered fused bicyclic heteroaromatic ring containing a phenyl ring or a six-membered heteroaromatic ring as just defined, fused to either a six-membered heteroaromatic ring as just defined or a five-membered heteroaromatic ring as just defined, the ring being optionally substituted by

25 halogen, C₁₋₄alkyl, hydroxy, C₁₋₄alkoxy, haloC₁₋₄alkyl, phenyl, haloC₁₋₄alkoxy or NR⁵R⁶ where R⁵ and R⁶ are independently C₁₋₄alkyl or, R⁵ and R⁶, together with the nitrogen atom to which they are attached, form a 5-6 membered saturated ring;

R⁷ is hydrogen, cyano, halogen, C₁₋₄alkyl, haloC₁₋₄alkyl, C₁₋₄alkoxy or haloC₁₋₄alkoxy;

when R¹ and R⁴ are alkyl groups they may, together with the nitrogen atoms to which they are attached, form a piperazine ring;

5 or a pharmaceutically acceptable salt or tautomer thereof.

4. A compound selected from:

3-(4-chlorophenyl)-2-[3-fluorobenzylthio]pyrido[3,4-d]pyrimidin-4(3H)-one;

10 3-(4-chlorophenyl)-2-{2-(4-chlorophenyl)-2-oxoethylthio}pyrido[3,2-d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-[3-fluorobenzylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-{2-(4-chlorophenyl)ethylthio}pyrido[3,2-d]pyrimidin-4(3H)-one;

15 2-{5-chloro-1-benzothien-3-ylmethylthio}-3-(4-chlorophenyl)pyrido[3,2-d]pyrimidin-4(3H)-one;

2-[1-benzothien-3-ylmethyl]thio]-3-(4-chlorophenyl)pyrido[3,2-d]pyrimidin-4(3H)-one;

2-[1,3-benzothiazol-2-ylmethylthio]-3-(4-chlorophenyl)pyrido[3,2-d]pyrimidin-

20 4(3H)-one;

3-(4-chlorophenyl)-2-[2-oxo-2-phenylethylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-{2-(3-chlorophenyl)-2-oxoethylthio}pyrido[3,2-d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-(2-oxo-2-[4-trifluoromethoxyphenyl]ethylthio)pyrido[3,2-

25 d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-(2-oxo-2-[4-trifluoromethylphenyl]ethylthio)pyrido[3,2-d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-{2-oxo-2-(4-pyrrolidin-1-ylphenyl)ethylthio}pyrido[3,2-d]pyrimidin-4(3H)-one;

30 3-(4-chlorophenyl)-2-[2-oxo-2-pyridin-2-ylethylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-[4-fluorobenzylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;

2-[3-chlorobenzylthio]-3-(4-chlorophenyl)pyrido[3,2-d]pyrimidin-4(3H)-one;

3-(4-chlorophenyl)-2-[pyridin-2-ylmethylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;

- 3-(4-chlorophenyl)-2-{5-phenyl-1,2,4-oxadiazol-3-ylmethylthio}pyrido[3,2-d]pyrimidin-4(3H)-one;
- 2-{3-(4-chlorophenyl)-4-oxo-3,4-dihydropyrido[3,2-d]pyrimidin-2-ylthio}-N-(5-methylisoxazol-3-yl)acetamide;
- 5 3-(4-chlorophenyl)-2-[3-fluorobenzylthio]thieno[2,3-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-2-[3-fluorobenzylthio]thieno[3,2-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-2-{2-(4-chlorophenyl)-2-oxoethylthio}thieno [3,2-d]pyrimidin-4(3H)-one;
- 6-(4-chlorophenyl)-5-[3-fluorobenzylthio][1,3]thiazolo[5,4-d]pyrimidin-7(6H)-one;
- 10 6-(4-chlorophenyl)-5-{2-(4-chlorophenyl)-2-oxoethylthio}[1,3]thiazolo[5,4-d]pyrimidin-7(6H)-one;
- 6-(4-chlorophenyl)-5-{2-(4-chlorophenyl)-2-oxoethylthio}[1,3]thiazolo[4,5-d]pyrimidin-7(6H)-one;
- 2-[5-chloro-1-benzothien-3-ylmethylthio]-1-(4-chlorophenyl)-9-methyl-1,9-dihydro-6H-purin-6-one;
- 15 1-(4-chlorophenyl)-9-methyl-2-(2-[4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-{2-(4-chlorophenyl)ethylthio}-9-methyl-1,9-dihydro-6H-purin-6-one;
- 20 1-(4-chlorophenyl)-2-{2-(4-chlorophenyl)-2-oxoethylthio}-9-methyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[3-fluorobenzylthio]-9-methyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[3-fluorobenzylthio]-1,9-dihydro-6H-purin-6-one;
- 2-{2-(4-chlorophenyl)-2-oxoethylthio}-3-[4-trifluoromethylphenyl]pyrido[3,2-d]pyrimidin-4(3H)-one;
- 25 2-[3-fluorobenzylthio]-3-[4-trifluoromethylphenyl]pyrido[3,2-d]pyrimidin-4(3H)-one;
- 2-(methylthio)-3-pyridin-3-ylpyrido[3,2-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-2-(3-oxo-4-phenylpiperazin-1-yl)pyrido[3,2-d]pyrimidin-4(3H)-one;
- 30 3-4-chlorophenyl-2-{2-(4-chlorophenyl)ethylamino}pyrido[3,2-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-2-[3-fluorobenzylxyloxy]thieno[3,2-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-2-[3-fluorobenzylamino]thieno[3,2-d]pyrimidin-4(3H)-one;

- 1-(4-chlorophenyl)-2-[2-cyclohexylethylthio]-9-methyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[2-cyclohexylethylthio]-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 5 1-(4-chlorophenyl)-9-ethyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-propylthio-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[cyclopropylmethylthio]-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 10 1-(4-chlorophenyl)-9-cyclopropyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-[2,2,2-trifluoroethylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-[4,4,4-trifluorobutylthio]-1,9-dihydro-6H-purin-6-one;
- 15 1-(4-chlorophenyl)-9-phenyl-2-(2-[4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-methylthio-9-phenyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-phenyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 20 1-(4-chlorophenyl)-9-phenyl-2-[4,4,4-trifluorobutylthio]-1,9-dihydro-6H-purin-6-one;
- 4-{9-methyl-6-oxo-2-[3,3,3-trifluoropropylthio]-6,9-dihydro-1H-purin-1-yl}benzonitrile;
- 9-methyl-1-(4-methylphenyl)-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 25 1-(4-chlorophenyl)-9-ethyl-2-(2-[4-trifluoromethylphenyl]ethylamino)-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-(2-[2-fluoro-4-trifluoromethylphenyl]ethylamino)-1,9-dihydro-6H-purin-6-one;
- 30 3-(4-chlorophenyl)-2-methylaminothieno[3,2-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-2-{2-(2-chlorophenyl)-2-oxoethylthio}pyrido[3,2-d]pyrimidin-4(3H)-one;
- 2-{2-(4-3-(chlorophenyl)-2-oxoethylthio)-3-phenylpyrido[3,2-d]pyrimidin-4(3H)-one;

- 3-(4-chlorophenyl)-2-[2-phenylethylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;
3-(4-chlorophenyl)-2-[2-fluorobenzylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;
6-(4-chlorophenyl)-5-{2-(4-chlorophenyl)ethylthio}[1,3]thiazolo[5,4-d]pyrimidin-7(6H)-one;
- 5 3-(4-chlorophenyl)-2-{2-(3-chlorophenyl)ethylthio}pyrido[3,2-d]pyrimidin-4(3H)-one;
3-(4-chlorophenyl)-2-(2-[4-trifluoromethylphenyl]ethylthio)pyrido[3,2-d]pyrimidin-4(3H)-one;
6-(4-chlorophenyl)-5-[3-fluorobenzylthio][1,3]thiazolo[4,5-d]pyrimidin-7(6H)-one;
- 10 6-(4-chlorophenyl)-5-{2-(4-chlorophenyl)ethylthio}[1,3]thiazolo[4,5-d]pyrimidin-7(6H)-one;
2-{6-chloro-1-benzothien-3-ylmethylthio}-1-(4-chlorophenyl)-9-methyl-1,9-dihydro-6H-purin-6-one;
2-{5-chloro-1-benzothien-3-ylmethylthio}-1-(4-chlorophenyl)-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 15 2-{5-chloro-1-benzothien-3-ylmethylthio}-1-(4-chlorophenyl)-9-isopropyl-1,9-dihydro-6H-purin-6-one;
3-(6-chloropyridin-3-yl)-2-[3-fluorobenzylthio]thieno[3,2-d]pyrimidin-4(3H)-one;
2-{5-chloro-1-benzothien-3-ylmethylthio}-3-[4-trifluoromethylphenyl]pyrido[3,2-d]pyrimidin-4(3H)-one;
- 20 1-(3-chlorophenyl)-9-methyl-2-(2-[4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
1-(4-chlorophenyl)-2-[3,4-dichlorobenzylthio]-9-methyl-1,9-dihydro-6H-purin-6-one;
- 25 1-(4-chlorophenyl)-9-cyclopropyl-2-(2-[4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
1-(4-chlorophenyl)-9-ethyl-2-(2-[4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
3-[4-trifluoromethylphenyl]-2-(2-[4-trifluoromethylphenyl]ethylthio)thieno[3,2-d]pyrimidin-4(3H)-one;
- 30 3-[4-trifluoromethylphenyl]-2-(2-[4-trifluoromethylphenyl]ethylthio)pyrido[3,2-d]pyrimidin-4(3H)-one;
1-(4-chlorophenyl)-2-{2-(2,4-dichlorophenyl)ethylthio}-9-methyl-1,9-dihydro-6H-purin-6-one;

- 3-(4-chlorophenyl)-2-[3,4-dichlorobenzylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;
2-[3-chloro-4-fluorobenzylthio]-3-(4-chlorophenyl)pyrido[3,2-d]pyrimidin-4(3H)-one;
- 1-(4-chlorophenyl)-2-(2-[3-fluoro-4-trifluoromethylphenyl]ethylthio)-9-methyl-1,9-
5 dihydro-6H-purin-6-one;
- 3-(4-fluorophenyl)-2-(2-[4-trifluoromethylphenyl]ethylthio)pyrido[3,2-d]pyrimidin-
4(3H)-one;
- 1-(4-fluorophenyl)-9-methyl-2-(2-[4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-
6H-purin-6-one;
- 10 1-(4-chlorophenyl)-9-methyl-2-(2-[4-trifluoromethoxyphenyl]ethylthio)-1,9-
dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-{2-(4-fluorophenyl)ethylthio}-9-methyl-1,9-dihydro-6H-purin-
6-one;
- 1-(4-chlorophenyl)-2-[2,4-dichlorobenzylthio]-9-methyl-1,9-dihydro-6H-purin-6-
15 one;
- 2-{5-chloro-1-benzothien-3-ylmethylthio}-9-methyl-1-[4-trifluoromethylphenyl]-
1,9-dihydro-6H-purin-6-one;
- 9-methyl-1-[4-trifluoromethylphenyl]-2-(2-[4-trifluoromethylphenyl]ethylthio)-
1,9-dihydro-6H-purin-6-one;
- 20 4-[2-{5-chloro-1-benzothien-3-ylmethylthio}-4-oxopyrido[3,2-d]pyrimidin-3(4H)-
yl]benzonitrile;
- ethyl {1-(4-chlorophenyl)-9-methyl-6-oxo-6,9-dihydro-1H-purin-2-ylthio}acetate;
4-[4-oxo-2-(2-[4-trifluoromethylphenyl]ethylthio)pyrido[3,2-d]pyrimidin-3(4H)-
yl]benzonitrile;
- 25 1-(4-chlorophenyl)-2-[3,4-dichlorobenzylthio]-9-ethyl-1,9-dihydro-6H-purin-6-one;
1-(4-chlorophenyl)-9-propyl-2-(2-[4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-
6H-purin-6-one;
- 1-(4-chlorophenyl)-9-methyl-2-(2-[4-trifluoromethylphenyl]ethylamino)-1,9-
dihydro-6H-purin-6-one;
- 30 1-(4-chlorophenyl)-2-[3,4-dichlorobenzylthiol]-9-propyl-1,9-dihydro-6H-purin-6-
one;
- 2-{5-chloro-1-benzothien-3-ylmethylthio}-9-methyl-1-[4-trifluoromethoxyphenyl]-
1,9-dihydro-6H-purin-6-one;

- 2-{5-chloro-1-benzothien-3-ylmethylthio}-1-(4-chlorophenyl)-9-(cyclopropylmethyl)-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-{2-(4-chlorophenyl)-2-oxoethylthio}-9-(cyclopropylmethyl)-1,9-dihydro-6H-purin-6-one;
- 5 1-(4-chlorophenyl)-9-cyclopropyl-2-[3-fluorobenzylthio]-1,9-dihydro-6H-purin-6-one;
- 2-[3-chloro-4-fluorobenzylthio]-1-(4-chlorophenyl)-9-cyclopropyl-1,9-dihydro-6H-purin-6-one;
- 10 1-(4-chlorophenyl)-9-cyclopropyl-2-[3,4-dichlorobenzylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-{3-trifluoromethylbenzylthio}-1,9-dihydro-6H-purin-6-one;
- 2-[3-chlorobenzylthio]-1-(4-chlorophenyl)-9-cyclopropyl-1,9-dihydro-6H-purin-6-one;
- 15 2-{5-chloro-1-benzothien-3-ylmethylthio}-1-(4-chlorophenyl)-9-cyclopropyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-{2-(4-chlorophenyl)-2-oxoethylthio}-9-cyclopropyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-(2-oxo-2-[4-trifluoromethylphenyl]ethylthio)-
- 20 1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-{2-(4-fluorophenyl)-2-oxoethylthio}-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-[2,4-dichlorobenzylthio]-1,9-dihydro-6H-purin-6-one;
- 25 1-(4-chlorophenyl)-9-cyclopropyl-2-{2-(2,4-dichlorophenyl)ethylthio}-1,9-dihydro-6H-purin-6-one;
- 3-(4-chlorophenyl)-2-[3-fluorobenzylthio]-7-methylthieno[3,2-d]pyrimidin-4(3H)-one;
- 2-{5-chloro-1-benzothien-3-ylmethylthio}-3-(4-chlorophenyl)-7-methylthieno[3,2-d]pyrimidin-4(3H)-one;
- 30 4-[2-[3-fluorobenzylthio]-4-oxopyrido[3,2-d]pyrimidin-3(4H)-yl]benzonitrile;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-(2-[2-hydroxy-4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;

- 2-{5-chloro-1-benzothien-3-ylmethylthio}-9-ethyl-1-(4-methylphenyl)-1,9-dihydro-6H-purin-6-one;
- 2-{5-chloro-1-benzothien-3-ylmethylthio}-1-(4-chlorophenyl)-9-propyl-1,9-dihydro-6H-purin-6-one;
- 5 1-(4-chlorophenyl)-9-cyclopropyl-2-(2-[2-fluoro-4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
- 1-(4-bromophenyl)-2-{5-chloro-1-benzothien-3-ylmethylthio}-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 10 2-[1,3-benzothiazol-2-ylmethylthio]-1-(4-chlorophenyl)-9-cyclopropyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-{2-fluoro-4-trifluoromethylbenzylthio}-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-{2-fluoro-5-trifluoromethylbenzylthio}-1,9-dihydro-6H-purin-6-one;
- 15 1-(4-chlorophenyl)-9-cyclopropyl-2-{3-fluoro-4-trifluoromethylbenzylthio}-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-cyclopropyl-2-(5-trifluoromethyl-1,3-benzothiazol-2-ylmethylthio)-1,9-dihydro-6H-purin-6-one;
- 20 2-{5-chloro-1-benzothien-3-ylmethylthio}-1-[4-dimethylaminophenyl]-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 3-(4-chlorophenyl)-2-[3,4-dichlorobenzylthio]-7-methylthieno[3,2-d]pyrimidin-4(3H)-one;
- 25 2-{2-(2,4-dichlorophenyl)ethylthio}-1-(4-fluorophenyl)-9-methyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-{2-(2,4-dichlorophenyl)ethylthio}-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-pentylthio-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-[3-methylbutylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[2-cyclohexylethylamino]-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 30 1-(4-chlorophenyl)-2-(2-[2-chloro-4-trifluoromethylphenyl]ethylthio)-9-methyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-(2-[2-chloro-4-trifluoromethylphenyl]ethylthio)-9-ethyl-1,9-dihydro-6H-purin-6-one;

- 2-{2-(2,4-dichlorophenyl)ethylthio}-9-ethyl-1-(4-fluorophenyl)-1,9-dihydro-6H-purin-6-one;
- 9-ethyl-1-(4-fluorophenyl)-2-(2-[2-fluoro-4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
- 5 2-(2-[2-chloro-4-trifluoromethylphenyl]ethylthio)-9-ethyl-1-(4-fluorophenyl)-1,9-dihydro-6H-purin-6-one;
- 2-{5-chloro-1-benzothien-3-ylmethylamino}-1-(4-chlorophenyl)-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-[3-fluorobenzylamino]-1,9-dihydro-6H-purin-6-one;
- 10 2-{5-chloro-1,3-benzothiazol-2-ylmethylthio}-1-(4-chlorophenyl)-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(2,4-dichlorophenyl)-2-{2-(2,4-dichlorophenyl)ethylthio}-9-methyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-(2-[2-fluoro-4-trifluoromethylphenyl]ethylthio)-9-methyl-1,9-dihydro-6H-purin-6-one;
- 15 1-(4-chlorophenyl)-9-ethyl-2-(2-[2-fluoro-4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-{2-(2,4-dichlorophenyl)-2-oxoethylthio}-9-methyl-1,9-dihydro-6H-purin-6-one;
- 20 9-ethyl-1-(4-fluorophenyl)-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-[3,3,3-trifluoropropylamino]-1,9-dihydro-6H-purin-6-one;
- 9-cyclopropyl-2-{2-(2,4-dichlorophenyl)ethylthio}-1-(4-fluorophenyl)-1,9-dihydro-6H-purin-6-one;
- 25 1-(4-chlorophenyl)-2-{2-(2,4-dichlorophenyl)ethylthio}-9-(2-hydroxyethyl)-1,9-dihydro-6H-purin-6-one;
- 9-cyclopropyl-1-(4-fluorophenyl)-2-(3,3,3-trifluoropropylthio)-1,9-dihydro-6H-purin-6-one;
- 30 1-(4-chlorophenyl)-2-{2-(2,4-dichlorophenyl)ethylamino}-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[cyclobutylmethylthio]-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 9-cyclopropyl-1-(4-fluorophenyl)-2-(2-[2-fluoro-4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6H-purin-6-one;

- 1-(4-chlorophenyl)-9-ethyl-2-[3,3,3-trifluoro-2-hydroxypropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-[3,3,3-trifluoro-2,2-dihydroxypropylthio]-1,9-dihydro-6H-purin-6-one;
- 5 1-(4-chlorophenyl)-2-[2-cyclopentylethylthio]-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-{2-methyl-1,3-thiazol-4-ylmethylthio}-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-methyl-2-[4,4,4-trifluorobutylthio]-1,9-dihydro-6H-purin-6-one;
- 10 1-(4-chlorophenyl)-2-(2-[2-fluoro-4-trifluoromethylphenyl]ethylamino)-9-methyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[cyclopentylmethylthio]-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-methyl-2-[4,4,4-trifluorobutylamino]-1,9-dihydro-6H-purin-6-one;
- 15 3-(4-chlorophenyl)-2-[3,3,3-trifluoropropylthio]pyrido[3,2-d]pyrimidin-4(3H)-one;
- 4-{9-methyl-6-oxo-2-[4,4,4-trifluorobutylthio]-6,9-dihydro-1H-purin-1-yl}benzonitrile;
- 4-{9-ethyl-6-oxo-2-[3,3,3-trifluoropropylthio]-6,9-dihydro-1H-purin-1-yl}benzonitrile;
- 20 1-(3-chloro-4-fluorophenyl)-9-methyl-2-[4,4,4-trifluorobutylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(3-chloro-4-fluorophenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-methyl-2-{2-methyl-1,3-thiazol-4-ylmethylthio}-1,9-dihydro-
- 25 6H-purin-6-one;
- 1-(4-chlorophenyl)-9-propyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-propyl-2-[4,4,4-trifluorobutylthio]-1,9-dihydro-6H-purin-6-one;
- 30 1-(4-chlorophenyl)-9-isopropyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-isopropyl-2-[4,4,4-trifluorobutylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[3-fluoropropylthio]-9-methyl-1,9-dihydro-6H-purin-6-one;

- 1-(4-chlorophenyl)-9-ethyl-2-[3-fluoropropylthio]-1,9-dihydro-6H-purin-6-one;
1-(4-chlorophenyl)-9-methyl-2-(4-trifluoromethyl-1,3-thiazol-2-ylmethylthio)-1,9-dihydro-6H-purin-6-one;
1-(4-chlorophenyl)-9-methyl-2-(6-trifluoromethylpyridin-3-ylmethylthio)-1,9-dihydro-6H-purin-6-one;
5 1-(4-chlorophenyl)-9-ethyl-2-(6-trifluoromethylpyridin-3-ylmethylthio)-1,9-dihydro-6H-purin-6-one;
1-(4-chlorophenyl)-9-ethyl-2-(4-trifluoromethyl-1,3-thiazol-2-ylmethylthio)-1,9-dihydro-6H-purin-6-one;
10 4-[9-ethyl-6-oxo-2-(4-trifluoromethyl-1,3-thiazol-2-ylmethylthio)-6,9-dihydro-1H-purin-1-yl]benzonitrile;
1-(3,4-difluorophenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
15 1-(3,4-difluorophenyl)-9-methyl-2-[4,4,4-trifluorobutylthio]-1,9-dihydro-6H-purin-6-one;
1-(4-chlorophenyl)-9-methyl-2-(2-trifluoromethyl-1,3-thiazol-4-ylmethylthio)-1,9-dihydro-6H-purin-6-one;
1-(3-fluoro-4-methylphenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
20 1-(4-chlorophenyl)-9-methyl-2-(4-methylpiperazin-1-yl)-1,9-dihydro-6H-purin-6-one;
1-(4-chloro-2-fluorophenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
1-(4-fluorophenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
25 1-(4-chloro-3-fluorophenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
1-(4-chloro-3-methoxyphenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
30 2-{1-(4-chlorophenyl)-9-ethyl-6-oxo-6,9-dihydro-1H-purin-2-ylthio}-N-methylacetamide;
2-{1-(4-chlorophenyl)-9-ethyl-6-oxo-6,9-dihydro-1H-purin-2-ylthio}-N,N-diethylacetamide;

- 1-(4-chlorophenyl)-9-ethyl-2-{5-methylisoxazol-3-ylmethylthio}-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-methyl-2-methylthio-1,9-dihydro-6H-purin-6-one;
- 1-(4-fluorophenyl)-9-methyl-2-(4-trifluoromethyl-1,3-thiazol-2-yl)methylthio)-1,9-dihydro-6H-purin-6-one;
- 9-ethyl-1-(4-fluorophenyl)-2-(4-trifluoromethyl-1,3-thiazol-2-ylmethylthio)-1,9-dihydro-6H-purin-6-one;
- 1-(3-bromo-4-chlorophenyl)-9-methyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 10 1-(4-chlorophenyl)-2-cyclohexylamino-9-ethyl-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-{2-methyl-1,3-thiazol-4-ylmethylamino}-1,9-dihydro-6H-purin-6-one;
- 3-(4-chlorophenyl)-2-(2-trifluoromethyl-1,3-thiazol-4-ylmethylthio)pyrido[3,2-d]pyrimidin-4(3H)-one;
- 15 3-(4-chlorophenyl)-2-(2-trifluoromethyl-1,3-thiazol-4-ylmethylamino)pyrido[3,2-d]pyrimidin-4(3H)-one;
- 1-(4-chloro-3-ethoxyphenyl)-9-ethyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 20 1-(4-chloro-3-isopropoxyphenyl)-9-ethyl-2-[3,3,3-trifluoropropylthio]-1,9-dihydro-6H-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-{4-[3-trifluoromethylpyridin-2-yl]piperazin-1-yl}-1,9-dihydro-6H-purin-6-one;
- 3-(4-fluorophenyl)-2-(2-trifluoromethyl-1,3-thiazol-4-ylmethylthio)pyrido[3,2-d]pyrimidin-4(3H)-one;
- 25 6-(4-chlorophenyl)-5-(2-trifluoromethyl-1,3-thiazol-4-ylmethylthio)[1,3]thiazolo[5,4-d]pyrimidin-7(6H)-one;
- 3-(4-chlorophenyl)-2-cyclohexylaminopyrido[3,2-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-2-[3,3,3-trifluoropropylthio]thieno[3,2-d]pyrimidin-4(3H)-one;
- 30 1-(4-chlorophenyl)-9-ethyl-2-(2-trifluoromethyl-1,3-thiazol-4-ylmethylamino)-1,9-dihydro-6H-purin-6-one;
- 9-ethyl-1-(4-fluorophenyl)-2-(2-trifluoromethyl-1,3-thiazol-4-ylmethylthio)-1,9-dihydro-6H-purin-6-one;

- 3-(4-chlorophenyl)-7-methyl-2-[3,3,3-trifluoropropylthio]thieno[3,2-d]pyrimidin-4(3H)-one;
- 3-(4-chlorophenyl)-7-methyl-2-(2-[4-trifluoromethylphenyl]ethylamino)thieno[3,2-d]pyrimidin-4(3H)-one;
- 5 3-(4-chlorophenyl)-7-methyl-2-[3,3,3-trifluoropropylamino]thieno[3,2-d]pyrimidin-4(3H)-one;
- 1-(4-chlorophenyl)-2-{2-(2,4-dichlorophenyl)ethylthio}-9-[2-dimethylaminoethyl]-1,9-dihydro-6*H*-purin-6-one;
- 10 1-(4-chlorophenyl)-9-cyclopropyl-2-(2-[2-methoxy-4-trifluoromethylphenyl]ethylthio)-1,9-dihydro-6*H*-purin-6-one;
- 1-(4-chlorophenyl)-9-ethyl-2-[methyl(3,3,3-trifluoropropyl)amino]-1,9-dihydro-6*H*-purin-6-one;
- 15 2-[[5-chloro-1-benzothien-3-ylmethyl](methyl)amino]-1-(4-chlorophenyl)-9-ethyl-1,9-dihydro-6 *H*-purin-6-one; and
- 2-chloro-5-{9-methyl-6-oxo-2-[3,3,3-trifluoropropylthio]-6,9-dihydro-1*H*-purin-1-yl}benzonitrile;
- or a pharmaceutically acceptable salt or tautomer thereof.

5. A pharmaceutical composition comprising one or more compounds of any
20 one of claims 1-4, or a pharmaceutically acceptable salt or tautomer thereof in
association with a pharmaceutically acceptable carrier or excipient.

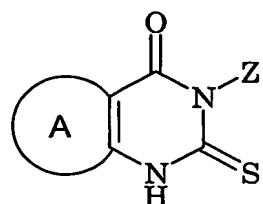
6. A compound of any one of claims 1-4, or a pharmaceutically acceptable salt
25 or tautomer thereof, for use in treatment of the human or animal body.

7. The use of a compound of any one of claims 1-4, or a pharmaceutically
acceptable salt or tautomer thereof for use in the manufacture of a medicament
for the treatment or prevention of physiological disorders that may be
ameliorated by modulating VR1 activity.

30 8. The use of a compound of any one of claims 1-4, or a pharmaceutically
acceptable salt or tautomer thereof for use in the manufacture of a medicament
for the treatment or prevention of a disease or condition in which pain and/or
inflammation predominates.

9. A process for the preparation of a compound of claim 1, which comprises:

(A) for compounds of formula I wherein X is S reacting a compound of formula II with a compound of formula III:



(II)

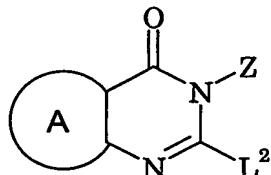


(III)

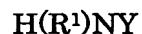
wherein A, Y and Z are as defined in claim 1 and L¹ is a leaving group;

10

(B) for compounds of formula I wherein X is NR¹ reacting a compound of formula XI with a compound of formula XII:



(xi)



(XII)

15

wherein A, R¹, Y and Z are as defined in claim 1 and L² is a leaving group; or

(C) for compounds of formula I wherein X is O reacting a compound of formula XI with a compound of formula XVI:

20



wherein Y is as defined in claim 1.

10. A method for the treatment or prevention of physiological disorders that may be ameliorated by modulating VR1 activity, which method comprises administration to a patient in need thereof of an effective amount of a compound 5 of claim 1 or a composition comprising a compound of claim 1.
11. A method for the treatment or prevention of a disease or condition in which pain and/or inflammation predominates, which method comprises administration to a patient in need thereof of an effective amount of a compound 10 of claim 1 or a composition comprising a compound of claim 1.